



WORD PROBLEM EQUATIONS

LESSON 7

Jan 21-8:53 AM

Connect

STEPS TO SOLVING WORD PROBLEMS

1. Use a variable to represent the unknown quantity.
2. Express any other unknown quantities in terms of this variable, if possible
3. Write an equation, and solve it.
4. State the answer to the problem. (substitue)
5. Check your answer by substituting in the problem

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Connect

EXAMPLE 1:

Three times a number is -3.6 ^{→ equal}

Let x represent the number

Let Statement

Equation: $\frac{3x}{3} = \frac{-3.6}{3}$

$x = -1.2$

The number is -1.2

check

$3(-1.2) = -3.6$
 $-3.6 = -3.6$ ✓

Things to Remember

Use a variable to represent the unknown quantity

Express any other unknown quantities in terms of this variable, if possible

Write an equation, and solve it.

State the answer to the problem

Check your answer by substituting in the problem.

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Connect

EXAMPLE 2:

A number divided by 4 is 1.5

Let x represent the number

Equation: $\frac{x}{4} = 1.5$

$4\left[\frac{x}{4}\right] = 4(1.5)$

$x = 6$

Subst.

check $\frac{6}{4} = 1.5$ ✓

Things to Remember

Use a variable to represent the unknown quantity

Express any other unknown quantities in terms of this variable, if possible

Write an equation, and solve it.

State the answer to the problem

Check your answer by substituting in the problem.

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Practice	YOU TRY!
<p>The product of a number and 8 is -3.2</p> <p><i>multiply</i> <i>equal</i></p>	
<p>Let x represent the number</p> <p>Equation: $\frac{8x}{8} = \frac{-3.2}{8}$</p> <p>$x = -0.4$</p> <p>Solution:</p> <p>Check $8(-0.4) = -3.2$ $-3.2 = -3.2$ ✓</p>	<p>Things to Remember</p> <p>Use a variable to represent the unknown quantity</p> <p>Express any other unknown quantities in terms of this variable, if possible</p> <p>Write an equation, and solve it.</p> <p>State the answer to the problem</p> <p>Check your answer by substituting in the problem.</p>

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Connect	EXAMPLE 3:
<p>A rectangle has length 3.7 cm and perimeter 13.2 cm. Determine the width of the rectangle.</p>	
<p>Let w represent the width.</p> <p>Equation: $P = 2(L + w)$ $\frac{13.2}{2} = \frac{2(3.7 + w)}{2}$ $6.6 = 3.7 + w$ $6.6 - 3.7 = 3.7 - 3.7 + w$ $2.9 = w$</p> <p>The width is 2.9 cm.</p>	<p>Things to Remember</p> <p>Use a variable to represent the unknown quantity</p> <p>$P = 2L + 2w$</p> <p>Express any other unknown quantities in terms of this variable, if possible</p> <p>Write an equation, and solve it.</p> <p>State the answer to the problem</p> <p>Check your answer by substituting in the problem.</p>

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Practice	YOU TRY!
<p>An equilateral triangle has a perimeter of 1.8 cm. What are the side lengths?</p>	
<p>Let x represent the side length.</p> <p>Equation: $\frac{3x}{3} = \frac{1.8}{3}$</p> <p>$x = 0.6$</p> <p>The side length is 0.6 cm.</p>	<p>Things to Remember</p> <p>Use a variable to represent the unknown quantity</p> <p>Express any other unknown quantities in terms of this variable, if possible</p> <p>Write an equation, and solve it.</p> <p>State the answer to the problem</p> <p>Check your answer by substituting in the problem.</p>

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Connect	EXAMPLE 4:
<p>A large pizza with cheese costs \$9.00 plus \$0.75 for each additional topping. Bob orders a large pizza that cost \$14.25. How many toppings did he order on the pizza?</p>	
<p>Let x represent the additional toppings.</p> <p>Equation: $9 + 0.75x = 14.25$ $9 - 9 + 0.75x = 14.25 - 9$ $0.75x = 5.25$ $\frac{0.75x}{0.75} = \frac{5.25}{0.75}$ $x = 7$</p> <p>He ordered 7 additional toppings.</p>	<p>Things to Remember</p> <p>Use a variable to represent the unknown quantity</p> <p>Express any other unknown quantities in terms of this variable, if possible</p> <p>Write an equation, and solve it.</p> <p>State the answer to the problem</p> <p>Check your answer by substituting in the problem.</p>

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Practice

YOU TRY!

A clubhouse sub costs \$5.50 plus \$0.45 for each additional veggie. Sam ordered a clubhouse that cost \$7.75. How many veggies did she order on the sub?

Let x rep. the additional veggies.

Equation: $5.50 + 0.45x = 7.75$

$5.5 - 5.5 + 0.45x = 7.75 - 5.5$

$\frac{0.45x}{0.45} = \frac{2.25}{0.45}$

$x = 5$

Sam ordered 5 veggies.

Things to Remember

Use a variable to represent the unknown quantity

Express any other unknown quantities in terms of this variable, if possible

Write an equation, and solve it.

State the answer to the problem

Check your answer by substituting in the problem.

Practice

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